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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,267	07/30/2001	Rino A. Feduzi	56649US002	2413
32692	7590	03/23/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			MUROMOTO JR, ROBERT H	
		ART UNIT	PAPER NUMBER	3765

DATE MAILED: 03/23/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/918,267	FEDUZI ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Robert H Muromoto, Jr.	3765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 February 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-62 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Specification***

The abstract of the disclosure is objected to because the recitation, "The disclosure describes..." is a redundant phrase not acceptable for US patent abstracts. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1--62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingham Re. 30,892 in view of Aldridge '210.

Bingham teaches retroreflective treated fabrics that use a very sparse retroreflective printing treatment, which leaves the fabric with nearly its full original appearance as well as hand, feel, and breathability. The smaller the individual retroreflective areas and the lower the density of microspheres over the area of the fabric, the more inconspicuous and the less effect on hand, feel, and breathability (col. 8, lines 20-25). "In general, to minimize effects..., the smallest surface dimension of the continuous (retroreflective) areas of the treatment on the fabric should be less than .5 cm, preferably less than .25 cm, and more preferably less than 1 mm (col. 8, lines 24-34)." These small dimensions would result in surface area percentages in the range of those recited in the instant invention.

As to the method of the instant invention, the method Bingham uses is a printing method, where a binder material (adhesive) only is printed in a scattered pattern onto cloth. Then, while the binder material is tacky, hemispherical reflectorized (fluorescent) microspheres are cascaded onto the cloth. Where they strike a dot of tacky binder material, the microspheres become adhered to the fabric, which leaves the fabric with nearly its full original appearance as well as hand, feel, and breathability.

Although Bingham teaches these limitations of the claims above Bingham does not state that the thermal decay and vapor permeability are substantially the same. Bingham does teach that the breathability of the treated fabric retains "nearly its full original appearance, hand, feel, and breathability" which the examiner feels is within the same scope as the recited "substantially equal thermal decay" and "vapor permeability" limitations in the instant invention. Therefore it would have been obvious to one of ordinary skill in the art to use the teachings of Bingham to provide a treated retroreflective fabric which shows substantially the same thermal decay and vapor permeability as the untreated fabric to provide a garment with better comfort characteristics.

Also not taught in Bingham are the surface area of non-retroreflective areas to the retroreflective areas, the brightness of the retroreflective material, and configuration of the pattern.

With respect to the limitations of the percentage of surface area of the non-retroreflective region (claims 2-4, 18, 19, 21, 25, 26, 34-36, 48, 49, 51, 53, 54), reflective brightness (claims 7, 8, 25, 26, 39, 40, 53, 54, 56), pattern (claims 12-16, 42-45), the

specification contains no disclosure of either the critical nature of the claimed limitations nor any unexpected results arising therefrom, and that as such the limitations were arbitrary and therefore obvious. Such unsupported limitations cannot be a basis for patentability, since where patentability is said to be based upon particular dimensions or another variable in the claim, the applicant must show that the chosen variables are critical. *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934 (Fed. Cir. 1990). One having ordinary skill in the art would be able to determine through routine experimentation the ideal levels of percentage of surface area of the non-retroreflective region, reflective brightness, and pattern for a particular application.

Although the combined teachings above teach essentially all of the limitations of the instant invention they do not teach the use of the breathable reflective material in multilayered protective garments.

However, Aldridge teaches a firefighter's garment, which are inherently thermal control garments, that use retroreflective trim for warning purposes on the outer shell of the garment. Additionally, the inner layers of the garment are a complex multilayered design common to protective garments that use moisture barriers, thermal barriers, permeable layers.

Therefore it would have been obvious to add the retroreflective material above to any garment, much less firefighters' garments to provide the garment with the ability to reflect light which is useful in many applications where the user needs to be seen.

#### ***Response to Arguments***

Applicant's arguments filed 2/5/04 have been fully considered but they are not persuasive. Applicant has argued that Bingham does not show all of the limitations of the listed claims, more specifically that Bingham does not obviate the recitations that the retroreflective and non-reflective regions are arranged so that thermal decay and vapor permeability of the two portions of the garment remain the substantially equal. The examiner disagrees. Bingham states the breathability (analogous to vapor permeability and directly related to thermal decay) of the treated fabric retains nearly its full original appearance, hand, feel, and breathability. The examiner holds that "nearly its full original" is clearly within the range of "substantially equal". Further, thermal decay is directly related to the amount of air that is allowed to pass through a fabric (breathability). Applicant has provided the equivalence or relevance of vapor permeability, i.e. breathability to thermal decay in pg. 4, lines 4-15 of the specification as filed, therefore the examiner holds that it would have been obvious (not inherent) to one of ordinary skill in the art to produce a retroreflective garment which uses a discontinuous arrangement of retroreflective elements that would allow the treated fabric to substantially retain its original thermal decay and vapor permeability values.

Applicant has argued that White is not a proper prior art document. This argument is moot since the rejection using White as reference has been removed.

Applicant has argued that the Examiner has misread, *in re woodruff*, to be relevant to the patentability of this instant invention. This argument may or may not be true, as it is open to interpretation. The matter at hand still remains that the limitations

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based on a variable must be shown criticality or unexpected results in the disclosure, at this time neither has been shown.

The White reference has been removed because of the priority date not being before the filing date of the instant invention. However, the limitations that were taught in White are also taught in Bingham and Aldridge. Since the rejection has changed this action is a non-final rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H Muromoto, Jr. whose telephone number is 703-306-5503. The examiner can normally be reached on 8-530, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 703-305-1025. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

bhm  
March 18, 2004

  
JOHN CALVERT  
SUPERVISOR PATENT EXAMINER  
TEC 3700